# Requirements and Analysis Document

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## 1 Introduction

The purpose of the project is to design and create a messaging application in which multiple users can communicate with another. To differentiate from other messaging applications, the main purpose is that multiple users can join a group to communicate primarily on desktops or laptops. Students working in groups will benefit from the application as it provides a simple, private space for them to communicate and share information. As group work is common within education, the application serves a purpose for higher education and is therefore required to simplify communication between groups.

The application will be a cross-platform desktop application with a graphical user interface. The aim is develop the application so it is easy and pleasant to use, as well as have the possibility of being extended into a more complex messaging application. First time users get the possibility to enter the application, identify themselves, and thereafter search for groups they wish to join and communicate with. Once active, the user can view, send, and receive messages.

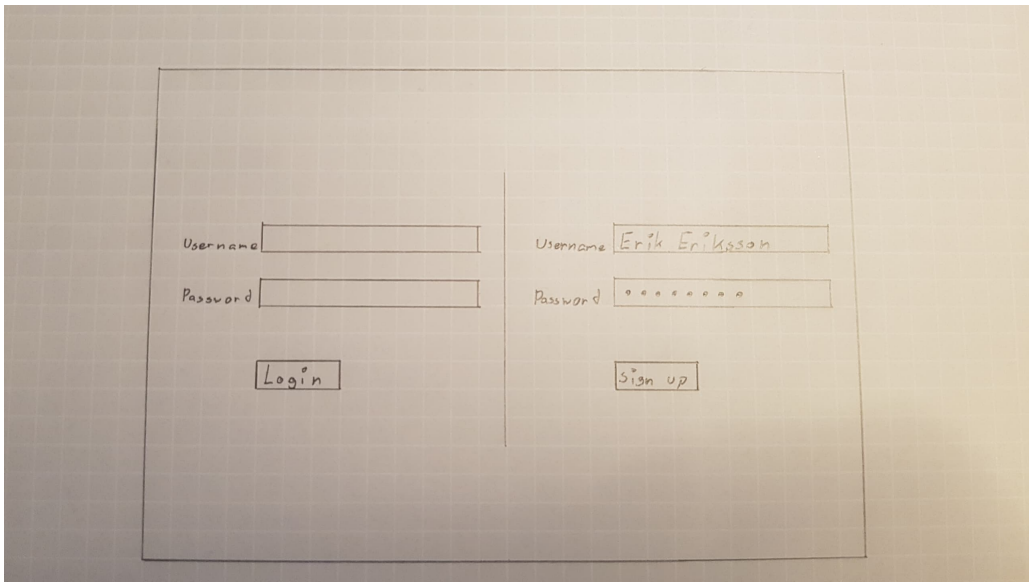
### 1.1 Definitions, acronyms, and abbreviations

## 2 Requirements

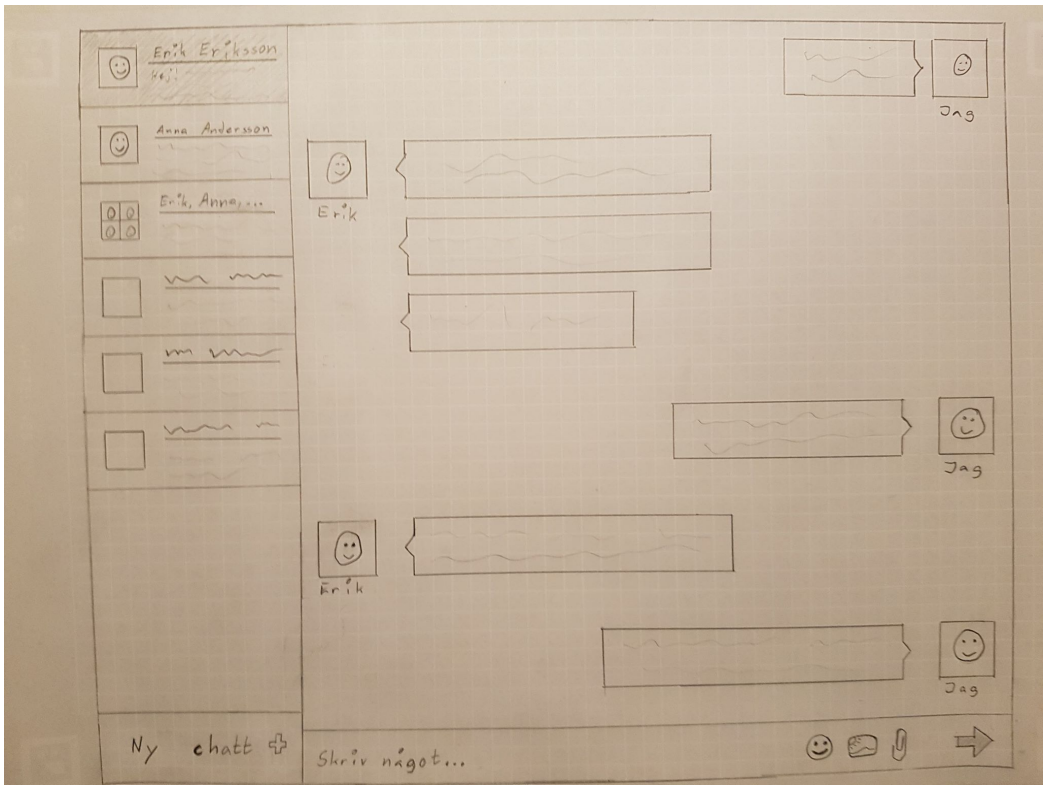
### 2.1 User Stories

**Story identifier**

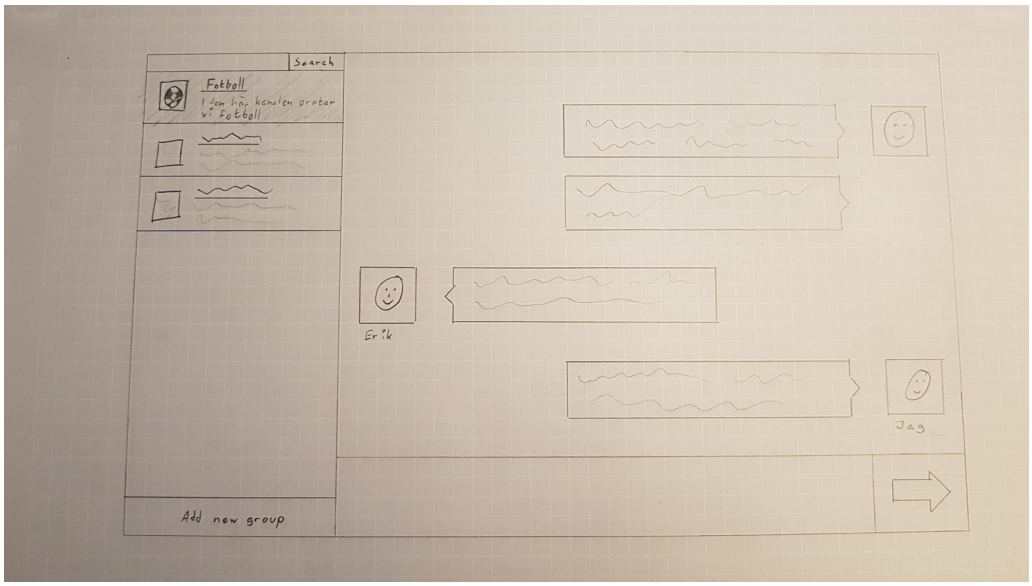
## 2.2 User interface



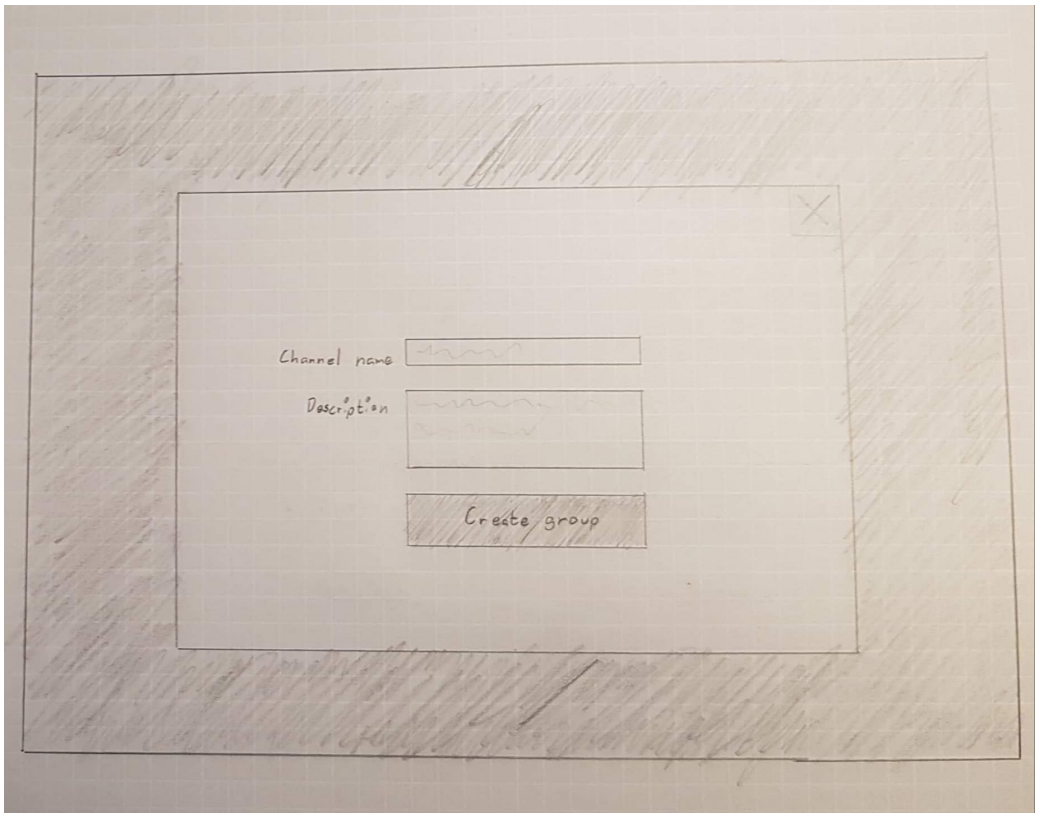

When the application is started the user is met with a view for logging in or signing up. If the user has an existing account, they can can use the fields to the left to log in to it. If they wish to create a new account, they can do so using the fields to the right. The user has to type in a username and a password for either of these to work.




This is the first iteration of the main view, which will show after the user has logged in or signed up. Here, they can view the channels they are in to the left, and the channel they are currently in is shown to the right/center of the screen. Here, the history of the channel's messages are shown, and the messages are displayed next to the profile picture of the user who sent them. The field at the bottom of the screen is used for typing in messages, and the arrow-button in the bottom-right corner is used for sending messages. The button in the bottom-left corner is used for creating a new channel.



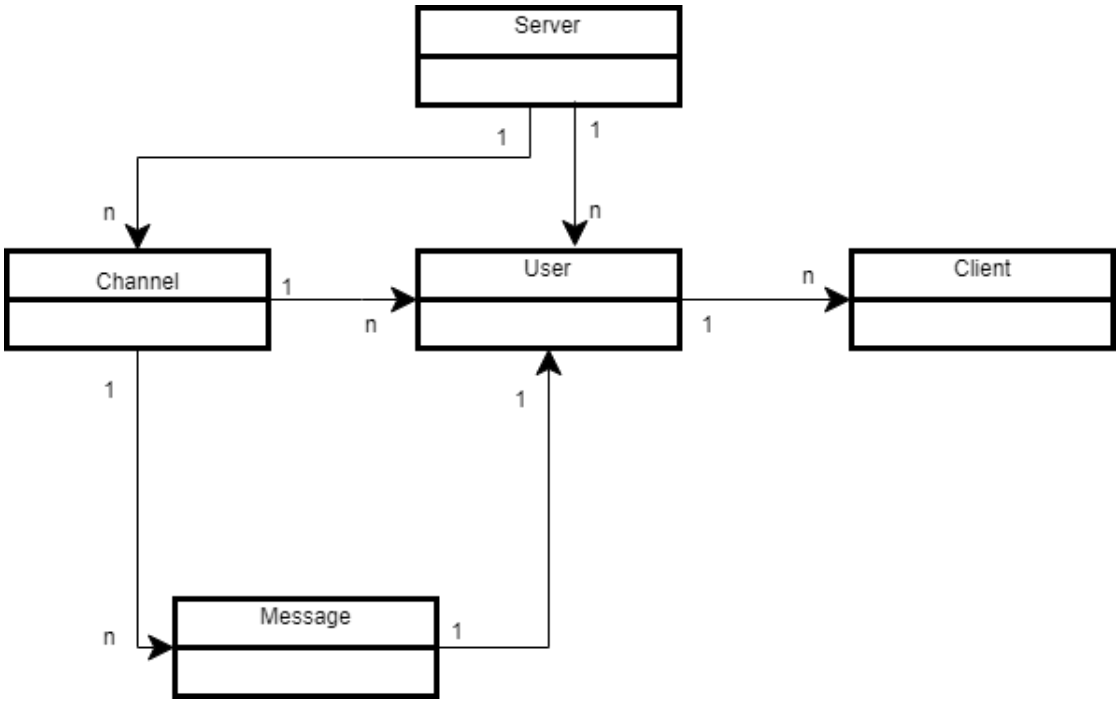

This is the second iteration of the main view. The application has been made wider and less square-ish and the channels are now displayed differently. Now, the name and the description of the channel is shown, as opposed to the users and the latest messages of the channel. Furthermore, a searchbar has been added to the top-left corner to allow users to search for a desired channel.




This is the view for creating new channels. The view is shown when the user presses the "Add new group" button at the bottom-left of the main view, and is shown on top of the main view. Moreover the main view is darkened to highlight the creation-view. In order to create a new channel, the user has to type in a name and a description for the channel. The user can choose to cancel the creation by either clicking on the x-button in the top-right corner, or by clicking outside on the view, on the main view behind it. The user is then brought back to the main view.

# 3 Domain model

The domain model consists of five objects. Server, channel, user, client and message. Together, they form the core of the application.




### 3.1 Class responsibilities

The server class is responsible of keeping track of all the existing users and channels.

The channel class holds all the messages written to it and keeps track of all the members. You can use the channel to send a message, and then the channel is responsible for delivering this message to all the members of the channel.

The user class is responsible of keeping track of its clients and forwarding all the received messages to the clients.

The client is responsible for being observable and forwarding any messages it receives to any eventual listener.

The message class is responsible for all the information regarding a message. The message content, who sent it, and when the message was created.

## 4 References